

PATENT

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Date: 10-11-05  
Christina M. Padamonsky**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re patent application of:

Applicant(s): Gerald L. Swift

Examiner: Melvin A. Cartagena

Serial No: 10/815,047

Art Unit: 3754

Filing Date: March 31, 2004

Title: ROTARY AND/OR LINEAR ACTUATOR SYSTEM FOR CONTROLLING  
OPERATION OF AN ASSOCIATED TOOL

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**APPEAL BRIEF**

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Dear Sir:

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Applicant submits this brief in connection with an appeal of the above-identified patent application. A credit card payment form is filed concurrently herewith in connection with all fees due regarding this appeal brief. In the event any additional fees may be due and/or are not covered by the credit card, the Commissioner is authorized to charge such fees to Deposit Account No. 50-1063 [ALBRP241USA].

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**I. Real Party in Interest (37 C.F.R. §41.37(c)(1)(i))**

The real party in interest in the present appeal is Anorad Corporation, the assignee of the present application.

**II. Related Appeals and Interferences (37 C.F.R. §41.37(c)(1)(ii))**

Appellants, appellant's legal representative, and/or the assignee of the present application are not aware of any appeals or interferences which may be related to, will directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**III. Status of Claims (37 C.F.R. §41.37(c)(1)(iii))**

No claims have been withdrawn, canceled or allowed. Claims 1-31 stand rejected by the Examiner. The rejection of claims 1-31 is being appealed.

**IV. Status of Amendments (37 C.F.R. §41.37(c)(1)(iv))**

No claim amendments have been entered after the Final Office Action.

**V. Summary of Claimed Subject Matter (37 C.F.R. §41.37(c)(1)(v))****A. Independent Claim 1**

Independent claim 1 recites a system that facilitates operation of a tool, comprising a moveable member having a length, that moves in a rotary motion about a central axis and a linear motion along the central axis to position an associated drive member and the drive member is parallel to the central axis, and extends the length of the moveable member to engage the tool, which drive member operates independently of the moveable member. (See, e.g. page 5 line 16 – page 6 line 23).

**B. Independent Claim 12**

Independent claim 12 recites a method of operating a tool, comprising coupling a moveable member to the tool, rotating the moveable member about a central axis and moving the moveable member along the central axis to position an associated drive rod, and driving part of

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the tool with the drive rod that operates independently of motion of the moveable member.  
(See, e.g. page 18 line 20 – page 19 line 25).

**C. Independent Claim 23**

Independent claim 23 recites a system for operating a tool, comprising means for providing rotary movement of a moveable member about a central axis and for linear movement of the moveable member along the central axis to position an associated drive member (See, e.g. page 18 lines 20-24) and means for driving part of the associated tool independently of movement of the moveable member, the associated tool is attached to the means for providing and the means for driving extends through at least a portion of the means for providing. (See, e.g. page 19 lines 2-5)

The aforementioned means for limitations are identified as claim elements subject to the provisions of 35 U.S.C. §112 ¶6. The corresponding structures are identified with reference to the specification and drawings in the parentheticals above corresponding to those claim limitations.

**VI. Grounds of Rejection to be Reviewed (37 C.F.R. §41.37(c)(1)(vi))**

- A. Whether claims 23-31 stand rejected under 35 U.S.C. §112, second paragraph.
- B. Whether claims 1-7 and 10-19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Weingartner (US 4,462,467).
- C. Whether claims 8, 9 and 20-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Weingartner in view of Riello *et al.* (US 6,216,798)

**VII. Argument (37 C.F.R. §41.37(c)(1)(vii))**

**A. Rejection of Claims 23-31 Under 35 U.S.C §112**

Claims 23-31 stand rejected under 35 U.S.C §112, second paragraph, because the Examiner states that it is not clear which *means for providing* is being claimed. In the Reply to Office Action dated September 22, 2004, independent claim 23 was amended to recite *means for providing rotary movement of a moveable member about a central axis and linear movement of*

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*the moveable member along the central axis.* Thus, it is clear that the claims dependent upon independent claim 23 that recite *the means for providing* refer to providing both rotary and linear movement with respect to a central axis. In view of at least the foregoing comments, this rejection should be withdrawn.

**B. Rejection of Claims 1-7 and 10-19 Under 35 U.S.C. §102(b)**

Claims 1-7 and 10-19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Weingartner (US 4,462,467). Applicant's representative respectfully requests that this rejection be withdrawn for at least the following reasons. Weingartner fails to disclose each and every limitation set forth in the subject claims.

A single prior art reference anticipates a patent claim only if it expressly or inherently describes **each and every limitation** set forth in the patent claim. *Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002); *See Verdegaaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). *The identical invention must be shown in as complete detail as is contained in the ... claim.* *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). (emphasis added).

The claimed invention relates to a linear/rotary actuator that operates on a moveable member to aid in controlling the operation of an associated tool. In particular, independent claims 1 and 12 recite similar limitations, namely *a moveable member having a length that moves in a rotary motion about a central axis and a linear motion along the central axis to position an associated drive member.* Weingartner is silent regarding such novel aspects of the subject claims.

Instead, Weingartner relates to a percussion drill machine that imparts percussive force to a drilling tool. The cited reference employs a free piston that imparts the force to drive an associated rod member to facilitate the operation of an associated tool. In the Final Office Action, the Examiner incorrectly equates the free piston of Weingartner to the *moveable member*, as claimed. The Examiner supports this mistaken contention by stating that the free piston is positioned in such a way so as to drive the associated drive member forward. However, such an interpretation misconstrues the claimed aspect of the *moveable member* employed to

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*position an associated drive member.* As an example to further illustrate this distinction, the claimed invention allows for activating rotary and/or linear windings to facilitate control of the moveable member. A drive member is attached to the moveable member in such a way that the drive member moves linearly commensurate with the moveable member. Thus, the claimed invention employs the moveable member to allow for positioning the associated drive member to facilitate accurate operation of an associated tool. To the contrary, Weingartner employs the free piston simply to drive an associated drive member forward for the purpose of operating an associated tool. Thus, the reference fails to disclose *a moveable member that moves... to position an associated drive member*, as claimed. Moreover, this distinction between Weingartner and the claimed invention is further exemplified by the fact that Weingartner provides a free piston and a rod drive member that travel along the same axis, while the claimed invention teaches *a moveable member...that moves in a rotary motion about a central axis and a linear motion along the central axis...and a drive member that is parallel to the central axis.*

In view of at least the foregoing, it is readily apparent that Weingartner does not teach the invention in as much detail as is contained in the subject claims. Accordingly, this rejection with respect to independent claims 1 and 12 (and the claims that depend there from) should be withdrawn.

**C. Rejection of Claims 8, 9 and 20-22 Under 35 U.S.C. §103(a)**

Claims 8, 9 and 20-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Weingartner in view of Riello *et al.* (US 6,216,798). Withdrawal of this rejection is requested for at least the following reasons. The cited references, alone or in combination, do not teach or suggest every limitation of the subject claims.

Claims 8 and 9 depend from independent claim 1 and claims 20-22 depend from independent claim 12. As discussed *supra* with respect to claims 1 and 12, Weingartner fails to disclose *a moveable member...that moves in a rotary motion about a central axis and a linear motion along a central axis to position an associated drive member.* Riello *et al.* fails to compensate for the deficiencies of Weingartner. Rather, Riello *et al.* concerns work units for automatic machine tools in which a spindle moves in translation and rotates with respect to a work axis for operation of an associated tool. However, Riello *et al.* does not employ any type of a moveable member for positioning the spindle for operation of the tool.

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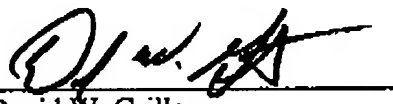
In view of at least the foregoing, it is readily apparent that Weingartner and Riello *et al.* do not teach or suggest all limitations of the subject claims. Accordingly, this rejection should be withdrawn.

**B. Conclusion**

For at least the above reasons, the claims currently under consideration are believed to be patentable over the cited reference. Accordingly, it is respectfully requested that the rejections of claims 1-31 be reversed.

If any additional fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [ALBRP241USA].

Respectfully submitted,  
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**VIII. Claims Appendix (37 C.F.R. §41.37(c)(1)(viii))**

1. A system that facilitates operation of a tool, comprising:  
a moveable member having a length, that moves in a rotary motion about a central axis and a linear motion along the central axis to position an associated drive member; and  
the drive member is parallel to the central axis, and extends the length of the moveable member to engage the tool, which drive member operates independently of the moveable member.
2. The system of claim 1, the drive member extends through the moveable member to engage the tool.
3. The system of claim 1, the drive member is a rod that is axially aligned with the central axis.
4. The system of claim 1, further comprising a coupling that is affixed to one end of the drive member such that the coupling loosely engages the tool to facilitate driving the tool.
5. The system of claim 1, the drive member drives the tool, which facilitates at least one of dispensing a fluid, cutting, drilling.
6. The system of claim 1, further comprising a drive system that couples to the drive member, which drive member slidably engages the drive system.
7. The system of claim 1, further comprising a control system that controls at least one of the rotary motion, and the linear motion of the moveable member, and the linear motion of the drive member.
8. The system of claim 1, the moveable member includes positioning means that facilitate controlling at least one of the rotary motion to a predetermined a rotary position and the linear motion to a predetermined a linear position.

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9. The system of claim 8, the positioning means comprises magnetic means.
10. The system of claim 1, further comprising a coupling chamber that couples the tool to the moveable member.
11. The system of claim 1, further comprising a housing that partially houses the moveable member such that the linear motion extends the moveable member substantially therefrom.
12. A method of operating a tool, comprising:  
coupling a moveable member to the tool;  
rotating the moveable member about a central axis and moving the moveable member along the central axis to position an associated drive rod; and  
driving part of the tool with the drive rod that operates independently of motion of the moveable member.
13. The method of claim 12, the drive rod is axially aligned with the central axis.
14. The method of claim 12, the moveable member is at least one of rotated about the central axis and moved along the central axis by a magnetic drive system.
15. The method of claim 12, further comprising engaging one end of the drive rod with a drive system.
16. The method of claim 12, further comprising preloading one end of the moveable member such that the tool is urged into contact therewith.
17. The method of claim 12, further comprising affixing a drive coupling at one end of the drive rod to engage the tool.
18. The method of claim 12, further comprising driving the drive rod with a direct drive system such that the drive rod extends through the direct drive system.



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19. The method of claim 12, further comprising performing the acts of rotating and moving substantially simultaneously.
20. The method of claim 12, further comprising:  
controlling the moveable member according to at least one of rotational movement and linear movement to arrive at a predetermined position; and  
sensing the position of the moveable member with a sensor.
21. The method of claim 12, the act of driving occurs in response to sensing the moveable member at the predetermined position.
22. The method of claim 12, further comprising controlling the moveable member with a feedback control system such that progress of a task being performed by the tool is controlled.
23. A system for operating a tool, comprising:  
means for providing rotary movement of a moveable member about a central axis and for linear movement of the moveable member along the central axis to position an associated drive member; and  
means for driving part of the associated tool independently of movement of the moveable member, the associated tool is attached to the means for providing and the means for driving extends through at least a portion of the means for providing.
24. The system of claim 23, further comprising means for rotating the means for driving about an axis thereof, the means for rotating being operatively coupled to the means for providing.
25. The system of claim 24, the means for driving further comprising a drive rod that extends through the means for providing and is independently rotatable relative to rotary movement of the moveable member.

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26. The system of claim 24, further comprising means for dispensing fluid in response to rotation of the drive rod.
27. The system of claim 26, the means for dispensing includes a screw that dispenses the fluid according to rotation of the drive rod.
28. The system of claim 24, the tool is removably engaged to the means for providing.
29. The system of claim 23, the means for driving is at least one of a direct drive system and an indirect drive system.
30. The system of claim 23, the means for providing includes magnetic means that facilitate the linear movement.
31. The system of claim 23, further comprising a coupling means that couples the tool to the moveable member.

**IX. Evidence Appendix (37 C.F.R. §41.37(c)(1)(ix))**

None.

**X. Related Proceedings Appendix (37 C.F.R. §41.37(c)(1)(x))**

None.